Using the Metathesaurus™ for Bibliographic Retrieval: A Pre-Implementation Study

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The Health Sciences Library and Information Center was awarded a contract from the National Library of Medicine to apply the Metathesaurus™, one of the Unified Medical Language System (UMLS) Knowledge Sources, to the University of Washington's online search interface, Willow. The overall plan is to make the Metathesaurus accessible both as a key index for MEDLINE searchers and as a terminology and concept resource to health information analysts. This poster describes a study which evaluated the use and utility of the Coach Metathesaurus Browser for MEDLINE search construction. Results of the pilot evaluation were incorporated into the implementation design.

These questions guided the design of this study: 1. What do searchers experience and report when using the Metathesaurus to construct MEDLINE searches? 2. Which features of the Metathesaurus browser do searchers consider useful for MEDLINE searching? 3. How do searches constructed using the University of Washington (UW) system compare with Metathesaurus-assisted searches, in selection of terms and also in number of relevant citations retrieved?

Ten clinicians with experience searching MEDLINE on the University system participated in this evaluation. The group included four physicians, three nurses and three dentists. Each searcher used both the UW system and the Coach Metathesaurus Browser to construct MEDLINE searches in response to two NLM "Gold Standard Search" questions.

In this study, qualitative and quantitative data collection techniques combined to capture a holistic, user-oriented view of the online search process. Using a "think-aloud" protocol, study participants' thoughts and reactions were audiotaped as they used the UW search interface and the Metathesaurus browser. Search activities were observed and tallied. Searchers also answered twelve scripted questions about the online tools. Each searcher's Metathesaurus searches were measured against his or her UW interface constructions, and both retrieval sets were compared to the "Gold Standard" retrieval set for each question.

Study participants reported satisfaction with the ability of the Metathesaurus to "map" their queries to appropriate controlled vocabulary, an improvement over the alphabetic MeSH browse list available on Willow. Other well-liked features included the concept definitions, MEDLINE postings information, and concept co-occurrence postings. The complexity of the Metathesaurus browser made it difficult for most study participants to evaluate it fully after one brief session. This repeated comment influenced the interface design process for implementation of the Metathesaurus at UW: a streamlined tool is in development, with the most important features immediately visible. Additional features will be available as buttons off the main screen, for more advanced users.

A full report of qualitative findings, analysis of search constructions and results will be presented at the poster session.

ACKNOWLEDGEMENTS

This project is supported in part by contract number 467-MZ-201782 and grants GO8-LM05620 and 1-F38-LM00031-01, all from the National Library of Medicine.

0195-4210/94/$5.00